

What is claimed is:

1. A fixing member for fixing an optical element to a substrate, said fixing member holding the optical element therein and the bottom surface of said fixing member being spherical so as to touch the fixing portion of said substrate at the edge of an opening of said fixing portion.

2. A fixing member according to Claim 1,
wherein said fixing member is metal.

3. An optical device having a substrate and an optical element fixed to said substrate with a fixing member, said fixing member holding the optical element therein and the bottom surface of said fixing member being spherical to touch a fixing portion of said substrate at the edge of an opening of said fixing portion.

4. An optical device according to claim 3, wherein said fixing portion is a cylindrical pedestal fixed to the substrate.

5. An optical device according to Claim 4,
wherein said substrate is metal,
said pedestal is metal and fixed to said substrate by welding, and
said fixing member is metal and fixed to said pedestal by welding.

6. An optical device according to Claim 4,
wherein said optical element is pressed and fixed to said fixing member by a screw.

7. An optical device according to Claim 6,
wherein a metal piece is inserted between said optical element and said

screw.

8. An optical device according to Claim 5,
wherein said pedestal and said substrate are laser welded by a Nd-YAG
laser.

5 9. An optical device according to Claim 5,
wherein said pedestal and said substrate are laser welded by a Nd-YAG
laser at, at least, two points.

10 10. An optical device according to Claim 5,
wherein said pedestal and said fixing member are laser welded by a
Nd-YAG laser.

11. An optical device according to Claim 5,
wherein said pedestal and said fixing member are laser welded by a
Nd-YAG laser at, at least, two points.

12. A method of making an optical device in which an optical element
15 is fixed to a substrate with a fixing member, comprising:

preparing a substrate having an opening in a fixing portion thereof, and
a fixing member holding the optical element therein, the bottom surface of said
fixing member being spherical;

adjusting a direction of said fixing member while the spherical bottom
20 surface of said fixing member is in contact with the edge of the opening of said
fixing portion of the substrate; and

fixing said fixing member to said fixing portion.

13. A method of making an optical device according to claim 12,

wherein said fixing portion is a cylindrical pedestal fixed to the substrate.

14. A method of making an optical device according to Claim 12,
wherein said fixing is done by welding.